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[54] **CREATINE AMIDINOHYDROLASE, PRODUCTION THEREOF AND USE THEREOF**

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[*] Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

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[30] **Foreign Application Priority Data**

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[51] **Int. Cl.**[7] **C12Q 1/34**; C12N 9/78; C12N 1/20; C12N 1/00

[52] **U.S. Cl.** **435/18**; 435/227; 435/192; 435/252.3; 435/320.1; 435/829; 435/252.33

[58] **Field of Search** 435/18, 227, 252.1, 435/320.1, 829, 192, 252.3, 252.33

[56] **References Cited**

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[57] **ABSTRACT**

A creatine amidinohydrolase having the following physicochemical properties:

Action: catalyzing the following reaction;
creatine+H_2O→sarcosine+urea

Optimum temperature: about 40–50° C.

Optimum pH: pH about 8.0–9.0

Heat stability: not more than about 50° C. (pH 7.5, 30 min)

Km value for creatine in a coupling assay using a sarcosine oxidase and a peroxidase: about 3.5–10.0 mM

Molecular weight: about 43,000 (SDS-PAGE)

Isoelectric point: [3.5] 4.5,

a method for producing said enzyme, comprising culture of microorganism producing said enzyme, a method for the determination of creatine or creatinine in a sample using said enzyme, and a reagent therefor.

23 Claims, 2 Drawing Sheets